No. 8200149

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Saatzucht Steinach

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

PERENNIAL RYEGRASS

'Lorina'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of* Washington *this* 26th *day of* October *in the year of our Lord one thousand nine hundred and* eighty-four.

Attest:

Kenneth A. [illegible]
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

John R Block
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

FORM APPROVED: OMB NO. 0581-0005

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION	3. VARIETY NAME
Saatzucht Steinach	LPR 103	Lorina

4. ADDRESS *(Street and No. or R.F.D. No., City, State, and Zip Code)*	5. PHONE *(Include area code)*	FOR OFFICIAL USE ONLY
Saatzucht Steinach Dr. M. von Schmieder Nachf. 8441 Steinach/üb. Straubing		PVPO NUMBER 8200149

6. GENUS AND SPECIES NAME	7. FAMILY NAME *(Botanical)*	FILING	DATE / TIME
Lolium perenne	Graineae		DATE 8/9/82 TIME 11:30 [X] A.M. [ ] P.M.

8. KIND NAME	9. DATE OF DETERMINATION	FEES RECEIVED	AMOUNT FOR FILING / DATE
Perennial Ryegrass	1972		$ 500.00 DATE 8/9/82

10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION *(Corporation, partnership, association, etc.)*	FEES RECEIVED	AMOUNT FOR CERTIFICATE / DATE
Corporation		$ 250.00 DATE 9/25/84

11. IF INCORPORATED, GIVE STATE OF INCORPORATION	12. DATE OF INCORPORATION
West Germany	1920

13. NAME AND ADDRESS OF APPLICANT REPRESENATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS

O. M. Scott & Sons Company Dr. John Long
Marysville, OH 43041

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED

a. [X] Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*

b. [X] Exhibit B, Novelty Statement

c. [X] Exhibit C, Objective Description of the Variety *(Request form from Plant Variety Protection Office.)*

d. [ ] Exhibit D, Additional Description of the Variety

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act.)* [ ] Yes *(If "Yes," answer items 16 and 17 below)* [X] No

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?	17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
[ ] Yes [ ] No	[ ] Foundation [ ] Registered [ ] Certified

18. DID THE APPLICANT(S) FILE FOR PROTECTION OF THE VARIETY IN THE U.S. OR OTHER COUNTRIES?

Federal Republic of Germany
October 24, 1977

[X] Yes *(If "Yes," give names of countries and dates)*
[ ] No

19. HAVE RIGHTS BEEN GRANTED IN THE U.S. OR OTHER COUNTRIES?

Federal Republic of Germany
August 10, 1981

[X] Yes *(If "Yes," give names of countries and dates)*
[ ] No

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT	DATE
Ewald Spaender /by E. Allen Griffin	8/5/82
SIGNATURE OF APPLICANT	DATE

FORM LMGS-470 (9-81) (Edition of 1-78 is obsolete)

INSTRUCTIONS

General: Send an original copy of the application and exhibits, at least 2,500 viable seeds, and $500 fee (*$250 filing fee and $250 examination fee*) to U.S. Department of Agriculture, Agricultural Marketing Service, Livestock, Meat, Grain and Seed Division, Plant Variety Protection Office, National Agricultural Library Building, Beltsville, Maryland 20705. *(See section 180.175 of the Regulations and Rules of Practice.)* Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

Item

9 Give the date the applicant determined that he had a new variety based on (1) the definition in section 41(a) of the Act and (2) the date a decision was made to increase the seed.

14a Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified and (4) evidence of uniformity and stability.

14b Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one or a group of related varieties: (1) identify these varieties and state all differences objectively; (2) attach statistical data for characters expressed numerically and demonstrate that these differences are significant; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.

14c Fill in the Exhibit C, Objective Description form, for all characteristics for which you have adequate data.

14d Describe any additional characteristics that are not described, or whose description cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the description of characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.

15 If "Yes" is specified *(seed of this variety be sold by variety name only as a class of certified seed)* the applicant may NOT reverse his affirmative decision after the variety has either been sold and so labeled, his decision published, or the certificate has been issued. However, if the applicant specified "No," he may change his choice. *(See section 180.16 of the Regulations and Rules of Practice.)*

16 See section 42 of the Plant Variety Protection Act and section 180.7 of the Regulations and Rules of Practice.

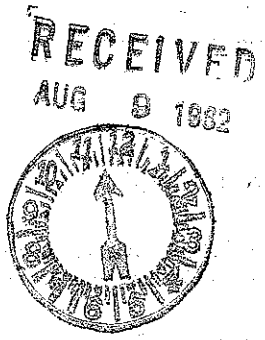

EXHIBIT A

Origin & Breeding History of Lorina Perennial Ryegrass

1. Genealogy

   Nine plants with distinctive growth habits were selected in Austria in 1972.

2. Subsequent Stages of Selection and Multiplication

   Two cycles of selection were made for desirable type starting with more than 200 clones of which 25 clones were kept after thorough testing. Seeds of these 25 clones were composited and used for multiplication.

3. Type and Frequency of Variants

   Only slight variation has been noted in Lorina. Approximately one percent of the plants are earlier, taller and more upright than the rest of the population. In the third generation this percentage is slightly higher.

4. Evidence of Uniformity and Stability

   Uniformity was verified by the German Bundessortenamt (BSA) on August 10, 1981.

8200149

SCOTTS
THE LAWN PEOPLE

O M Scott & Sons
A Subsidiary of ITT
Marysville, Ohio 43040
(513) 644-0011

December 9, 1983

Mr. Joseph J. Higgins, Examiner
Plant Variety Protection Office
U.S. Department of Agriculture
Agricultural Marketing Service
National Agricultural Library Building
Beltsville, Maryland 20705

Dear Mr. Higgins:

Subject: Perennial Ryegrass Application
No. 8200149, 'Lorina'

Following are the answers to your questions in your letter of September 28, 1983.

Question on multiplication: The 25 selected clones were allowed to intercross to produce the breeders seed for 'Lorina.'

Question on stability: 'Lorina' is stable and uniform in its characteristics from one sexual generation to another.

Novelty statement: The revised novelty statement is the attached Exhibit B.

If there are additional points that need clarification, please call.

Sincerely,

J. A. Long, Director
Turf Products Development

JAL:cmt

cc: P. Berner

Exhibit B

8200149

Novelty Statement for Lorina

Perennial Ryegrass, No. 8200149

Lorina is most similar to Loretta in variety characteristics.

Lorina differs from Loretta in color, mature plant height, lodging and maturity. Lorina is darker green (Tables 1-4), has lower mature plant height (Tables 1 and 5), has less lodging (Table 5) and is later maturing (Table 1 and 5) than Loretta.

EXHIBIT B

Novelty Statement for Lorina Perennial Ryegrass

Novelty is based on shorter seed stalks, lower 1000 seed weight, small seed size, narrower leaf width, high turf density and dark green leaf color.

Lorina differs from Loretta by its lower growth habit, later maturity, smaller seed size, darker green color and denser turf.

Lorina differs from Manhattan by its later flowering, lower growth habit, smaller seed size, narrower leaf blades, denser turf and darker green color.

The German BSA has determined Lorina to be different from Sprinter, Springfield, Saione, Capper and Magister because of its darker green leaf color.

Table 1 - German BSA ratings on color, mature plant height and maturity.

	Color[1/]	Height[2/]	Maturity[3/]
Loretta	5	4	68
Lorina	6	2	72

1/ Higher number is darker green.

2/ Higher number is taller.

3/ Days after April 1 to flowering.

Table 2 - Color rating - Marysville, Ohio (higher number is a darker green color)

Test seeded 6/19/80

Reading Date	10/6/82	4/28/81
Loretta	7.00	8.1
Lorina	7.43	8.3
*Test LSD (.05)	.20	.25

Test seeded 9/2/80

Reading Date	6/3/82	8/23/82	9/20/82	5/29/81	6/5/81
Loretta	7.33	7.30	7.28	8.93	8.77
Lorina	7.93	7.63	7.43	9.07	9.33
Test LSD (.05)	.27	.28	.22	.11	.91

Test seeded (5/22/81)

Reading Date	8/23/82	9/21/83
Loretta	7.37	7.00
Lorina	7.70	7.43
*Test LSD (.05)	.26	.19

*Test LSD is the LSD calculated for the entire test and not just calculated for this single comparison.

Table 3 - Color rating - Prince Frederick, Maryland (higher number is a darker green color)

Test seeded 4/22/81

Reading Date	6/10/82	10/8/82
Loretta	6.67	6.00
Lorina	8.30	7.37
Test LSD (.05)	1.35	.88

Table 4 - Color rating - Gervais, Oregon (higher number is a darker green color)

Test seeded	7/21/81	9/10/82
Loretta	7.17	7.00
Lorina	7.83	8.33
Test LSD (.05)	.49	.45

Table 5 - Mature plant height (cm) and lodging (0 = upright, 5 = flat) - Gervais, Oregon

Tested seeded 10/12/80

	Height	Lodging	Date of Maturity
Loretta	89.75	2.75	7/29/81
Lorina	59.50	0.00	8/3/81
Level of significance*	.006	.002	

*.05 or less is generally accepted as being significantly different.

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Table 1. Perennial Ryegrass Variety Test* - Seeded 5/22/81, Marysville, Ohio

Characteristic	Date	Lorina	Idole	LSD 5%*
Leafspot	5/19/82	4	25	12.8
Density	5/19/82	67	63	4.9
Quality	5/19/82	2.1	1.9	.15
Density	6/3/82	75	69	3.6
Quality	6/3/82	2.13	1.97	.08
Density	6/24/82	75	69	4.3
Color	6/30/82	7.3	7.5	.26
Quality	6/30/82	1.77	1.47	.37
Green	7/23/82	50	28	19.7
Density	9/21/82	73	65	4.9
Color	9/21/82	7.4	7.7	.19
Density	5/17/83	72	66	5.0
Leafspot	6/3/83	3.0	8.3	7.9

Rating Scales

Leafspot	Density, Green - %
Quality	1-4, 4 = Best
Color	1-9, 9 = Darkest Green

* The complete test contained 33 varieties with the LSD 5% calculated using the error variance for the entire test.

Table 2. Perennial Ryegrass Variety Test - Official Government Trials - West Germany

Characteristic	Year	Lorina	Magister	LSD 5%
Plant Length (cm)	1979	24.70	36.85	2.84
	1980	25.47	38.05	3.10
Color	1979	8	5	2
9 = Best	1980	8	4	2
Seedling	1979	8	5	2
Color	1980	8	4	2
9 = Best				
Flag Leaf	1979	121.21	152.39	14.84
Length (mm)	1980	95.33	114.82	13.17
First Flower	1979	72.29	70.29	1.85
Appearance	1980	76.93	72.15	1.48
(days after April 1)				

FORM APPROVED: OMB NO. 40-R3712

FORM GR-470-36
(9-76)

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
GRAIN DIVISION
HYATTSVILLE, MARYLAND 20782

OBJECTIVE DESCRIPTION OF CULTIVARS
RYEGRASS
(Lolium spp.)

NAME OF APPLICANT(S)
Saatzucht S T E I N A C H

VARIETY NAME OR TEMPORARY DESIGNATION
L O R I N A

ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code)
Saatzucht S T E I N A C H
Dr.M.von Schmieder Nachf., 8441 Steinach/üb.Straubing

FOR OFFICIAL USE ONLY
PVPO NUMBER
8200149

Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in first box (e.g. [0][8][9] or [0][9])when number if either 99 or less or 9 or less. Descriptions of characters should represent those that are typical for the variety. Ranges may be given also. Measured data should be for SPACED PLANTS. Give additional description for all characteristics that cannot be adequately described in the form below. Append all pertinent comparative trial and evaluation data.

1. SPECIES:

[2] 1 = L. MULTIFLORUM (annual or Italian: includes Westerwoldicum) 2 = L. PERENNE (perennial) 3 = L. RIGIDUM (includes Wimmera)
4 = HYBRID (of species) _____ 5 = OTHER (Specify) _____

2. PLOIDY:

[1] 1 = DIPLOID 2 = TETRAPLOID 3 = OTHER (Specify) _____

3. DURATION:

[3] 1 = ANNUAL OR BIENNIAL 2 = SHORT LIVED PERENNIAL (3-4 years) 3 = PERENNIAL (more than 4 years)

STANDARD CULTIVARS

1 = GULF 2 = WIMMERA 62 3 = LINN 4 = PELO
5 = NORLEA 6 = ABERYSTWYTH S-23 7 = MANHATTAN 8 = PENNFINE

4. MATURITY (50% HEADED) Use standards from above for comparison:

[8] 1 = VERY EARLY 3 = EARLY 5 = MEDIUM 7 = LATE 9 = VERY LATE

[ ][ ] DAYS EARLIER THAN ..... [ ] STANDARD CULTIVAR
[ ][6] DAYS LATER THAN ..... [7] STANDARD CULTIVAR

5. MATURE PLANT HEIGHT (Use standard cultivars from above) :

[ ][4][2] CM. HIGH [ ][2][6] CM. SHORTER THAN ..... [7] STANDARD CULTIVAR
[ ][ ][ ] CM. TALLER THAN ..... [ ] STANDARD CULTIVAR

6. PERCENT WINTER DAMAGE (estimated as percent of the area appearing dead). Use standard cultivars from above for comparison:

[ ][ ][0] PERCENT DAMAGE OF APPLICATION CULTIVAR
[ ][2][0] PERCENT DAMAGE OF ..... [7] STANDARD CULTIVAR

7. TURF DENSITY Use standard cultivars from above:

[ ][ ][ ] TILLERS PER 100 SQ. CM.
[ ][ ][ ] LESS TILLERS PER 100 SQ. CM. THAN .... [ ] STANDARD CULTIVAR
[ ][ ][ ] MORE TILLERS PER 100 SQ. CM. THAN ... [7] STANDARD CULTIVAR

8. FLAG LEAF (at full growth) Use standard cultivars from above:

[ ][1][1] CM. LENGTH (from ligule to tip) [ ][ ][5] MM. WIDTH (at widest point)
[ ][ ][3] CM. SHORTER THAN ..... [7] STANDARD CULTIVAR
[ ][ ][ ] CM. LONGER THAN ..... [ ] STANDARD CULTIVAR
[ ][0,5] MM. NARROWER THAN ..... [7] STANDARD CULTIVAR
[ ][ ][ ] MM. WIDER THAN ..... [ ] STANDARD CULTIVAR

[7] FLAG LEAF AT BOOT STAGE: 1 = DEFLEXED 3 = RECURVED 5 = HORIZONTAL 7 = SEMI-ERECT 9 = ERECT

8200149

STANDARD CULTIVARS

1 = GULF 2 = WIMMERA 62 3 = LINN 4 = PELO
5 = NORLEA 6 = ABERYSTWYTH S-23 7 = MANHATTAN 8 = PENNFINE

9. LEAVES:

[3] VERNATION: 1 = LEAVES ROLLED IN YOUNG SHOOTS
2 = LEAVES SEMI-ROLLED (folded with rolled edges)
3 = LEAVES FOLDED IN YOUNG SHOOTS

[1 0 0] % PLANTS WITH ANTHOCYANIN IN LOWER LEAF SHEATH

[3] FOLIAGE COLOR: 1 = YELLOW GREEN 2 = MEDIUM GREEN 3 = BLUE GREEN

10. SPIKE:

[1 3 3] MM. SPIKE LENGTH (tip to internode below lowest floret)

[5 9] MM. SHORTER THAN ..... [7]
[ ] MM. LONGER THAN ..... [ ]
} USE STANDARD CULTIVARS FROM ABOVE

[ ] MG. PER TEN SPIKES (trimmed to internode below lowest floret)

[ ] MG. LIGHTER PER TEN SPIKES THAN ..... [ ]
[ ] MG. HEAVIER PER TEN SPIKES THAN ..... [ ]
} USE STANDARD CULTIVARS FROM ABOVE

[ ] FLORETS PER SPIKELET

PERCENTAGE OF PLANTS WITH:

RACHIS: [0] % SMOOTH [ ] % ROUGH

SPIKE COLOR: [ ] % GREEN [ ] % PURPLE

LEMMA: [0] % AWNED [0] MM. AWN LENGTH

[ ] MM. GLUME LENGTH [ ] 1 = SPIKELET LENGTH NEARLY EQUAL TO OUTER GLUMES
2 = SPIKELET LENGTH MUCH LONGER THAN OUTER GLUMES

11. COLEOPTILE:

[1 0 0] % PLANTS WITH ANTHOCYANIN IN COLEOPTILE

12. ANTHER COLOR:

[1 0 0] % PLANTS WITH WHITE ANTHERS [0] % PLANTS WITH YELLOW ANTHERS

[0] % PLANTS WITH PURPLE ANTHERS

13. ROOT AND PLANT CHARACTERS:

[1 0 0] % PLANTS WITH PROSTRATE GROWTH HABIT [0] % PLANTS WITH FLUROESCENT ROOTS

[0] % PLANTS WITH UPRIGHT GROWTH HABIT

14. SEED:

[1 1 5] MG. PER 1,000 SEED [4 5] MM. TOTAL LENGTH OF 10 SEEDS [1 1] MM. TOTAL WIDTH OF TEN SEEDS

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15. DISEASE (0 = NOT TESTED, 2 = HIGHLY SUSCEPTIBLE, 4 = MODERATELY SUSCEPTIBLE, 6 = MODERATELY RESISTANT, 8 = HIGHLY RESISTANT):

8	CROWN RUST (Puccinia coronata)	0	DOLLAR SPOT (Sclerotinia)	0	BROWN PATCH (Rhizoctonia)
6	LEAF SPOT (Helminthosporium)	0	MILDEW	0	OTHER *(Specify)*
0	SNOW MOLD (Typhula)	6	RED THREAD (Corticium)		

16. INSECT (0 = NOT TESTED, 2 = HIGHLY SUSCEPTIBLE, 4 = MODERATELY SUSCEPTIBLE, 6 = MODERATELY RESISTANT, 8 = HIGHLY RESISTANT):

0 *(Specify)* _____

17. GIVE RESEMBLANCE VALUE IN LEFT COLUMN AND VARIETY CODE NUMBER IN RIGHT COLUMN FOR VARIETY WITH WHICH COMPARISON IS MADE (1 = LESS THAN, 2 = SAME AS, 3 = MORE ERECT, MORE RESISTANT, DENSER, MORE PERSISTENT, DARKER OR GREATER HEIGHT.):

RESEMBLANCE	CHARACTER	SIMILAR VARIETY	
1	PLANT HABIT (erectness)	7	1 = GULF
2	TILLERING	7	2 = WIMMERA 62
3	WINTER HARDINESS	7	3 = LINN
2	HIGH TEMP. STRESS RESISTANCE	7	4 = PELO
3	TURF PERSISTENCE	7	5 = NORLEA
3	PLANT COLOR	7	6 = ABERYSTWYTH S-23
1	VERTICAL SEEDLING GROWTH RATE	7	7 = MANHATTAN
3	CROWN DENSITY	7	8 = PENNFINE
3	MOWER SHREDDING RESISTANCE	7	

18. GIVE AREA OF ADAPTATION AND INTENDED USE: T u r f - G r a s

19. GIVE AREA TEST RESULTS PRESENTED FROM: West Germany (Steinach, Scharnhorst)

COMMENTS:

RECEIVED AUG 9 1982

8441 Steinach, den 22. Juli 1982

Saatzucht Steinach
Dr. M. von Schmieder Nachf.
8441 Steinach üb. Straubing
ppa. Ewald Grundler

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